

ABSTRACT

A system accessing and transmitting different data frames in a digital transmission network, said system comprises at least a subscriber network interface designed to couple with the subscribers' networks and/or at least an inter-network interface designed to couple with said digital transmission network to transfer data, a data converting device coupled with said subscriber network interfaces and said inter-network interfaces to convert formats of data between said subscriber network interfaces, formats of data between said inter-network interfaces, or formats of data between said inter-network interfaces and said subscriber network interfaces; wherein said data converting device comprises a virtual bridge device and their interface devices, said virtual bridge devices exchange data between said subscriber network interfaces and said inter-network interfaces via said interface devices; wherein said virtual bridge device is designed to detect control messages and transfer the detected control messages to the control system of them via the control interfaces; said virtual bridge device performs switching operation to other messages except for the control messages, in order to overcome restriction on Ethernet data frame address space.